
माल्ट युक्त दुग्ध का आहार —
विशिष्ट

(दूसरा पुनरीक्षण)

Malted Milk Foods — Specification
(*Second Revision*)

ICS 67.100.99

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भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

मानक भवन, 9 बहादुरशाह ज़फर मार्ग, नई दिल्ली-110002

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI-110002

www.bis.org.in www.standardsbis.in

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Dairy Products and Equipment Sectional Committee had been approved by the Food and Agriculture Division Council.

Malted milk foods are of two distinct types; namely, malted milk foods not containing cocoa powder and malted milk foods containing cocoa powder. Malted milk foods are manufactured in the form of powder or granules and are used as beverages.

This standard was first published in 1961 and originally covered malted milk foods without cocoa powder while those containing cocoa powder were covered in IS 2003 : 1962 'Malted milk food containing cocoa powder'. It was subsequently revised in 1975 to make it comprehensive and cover all types of malted milk foods being manufactured in the country except malted skim milk food which is not recommended for infant feeding. The first revision superseded IS 2003 : 1962. This revision is undertaken to harmonize the specifications of malted milk foods with the requirements laid down in the *Food Safety and Standards (Food Products Standards and Food Additives) Regulations*, 2011 for these products. In this revision, the following major changes have been incorporated:

- a) Definition of malted milk food has been revised in line with the *FSS Regulations*;
- b) Requirement of moisture content and total protein content has been revised in line with the *FSS Regulations*;
- c) Limits of yeast and mould count, *E. coli*, *Salmonella*, *Shigella*, *Vibrio cholera*, *V. parahaemolyticus*, faecal streptococci and *Streptococcus aureus* have been incorporated; and
- d) References to Indian Standards have been updated.

While formulating this standard, necessary consideration has been given to the relevant rules prescribed by the Government of India under the *Food Safety and Standards Act*, 2006 and Rules framed thereunder and the *Legal Metrology (Packaged Commodities) Rules*, 2011. This standard is however, subject to the restriction imposed under these, wherever applicable.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

MALTED MILK FOODS — SPECIFICATION

(Second Revision)

1 SCOPE

This standard prescribes the types, requirements, methods of sampling and test for malted milk foods.

2 REFERENCES

The standards given below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards.

<i>IS No.</i>	<i>Title</i>
1070 : 1992	Reagent grade water — Specification (<i>third revision</i>)
2491 : 2013	Food hygiene — General principles — Code of practice (<i>third revision</i>)
5401 (Part 1) : 2012/ISO 4832 : 2006	Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of coliforms: Part 1 Colony count technique (<i>second revision</i>)
5402 : 2012/ISO 4833 : 2003	Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of micro organisms — Colony count technique at 30°C (<i>second revision</i>)
5403 : 1999	Method for yeast and mould count of food stuffs and animal feeds (<i>first revision</i>)
5887	Methods for detection of bacteria responsible for food poisoning:
(Part 1) : 1976	Isolation, identification and enumeration of <i>Escherichia Coli</i>
(Part 2) : 1976	Isolation, identification and enumeration of <i>STAPHYLOCOCCUS AUREUS</i> and faecal streptococci (<i>first revision</i>)
(Part 3) : 1999/ISO 6579 : 1993	General guidance on methods for detection of <i>SALMONELLA</i> (<i>second revision</i>)
(Part 5) : 1976	Isolation, identification and enumeration of <i>VIBRIOCHOLERA</i> and <i>VIBRIO</i>

IS No.

Title

(Part 7) : 1999	<i>PARAHAEMOLYTICUS</i> (<i>first revision</i>)
7219 : 1973	General guidance on methods for isolation and identification of <i>SHIGELLA</i>
11721 : 2013/ISO 1736 : 2008	Method for determination of protein in foods and feeds
12759 : 1989/ISO 8156 : 1987	Dried milk and dried milk products — Determination of fat content — Gravimetric method (Reference method) (<i>second revision</i>)
14433 : 2007	Dried milk and dried milk products — Determination of insolubility index
15347 : 2003	Infant milk substitutes — Specification (<i>first revision</i>)
	Malted milk food — Method for sensory evaluation

3 TYPES

The material shall be of the following two types:

- a) *Type I* — Malted milk foods without cocoa powder; and
- b) *Type II* — Malted milk foods with cocoa powder.

4 REQUIREMENTS

4.1 Malted Milk Foods without Cocoa Powder

The product shall be obtained by mixing whole milk, partly skimmed milk or milk powder with the wort separately from a mash of ground barley malt, any other malted cereal grain and wheat flour or any other cereal flour or malt extract with or without addition of flavouring agents and spices, emulsifying agents, eggs, protein isolates, edible common salt, sodium or potassium bicarbonate, minerals and vitamins and without added sugar in such a manner as to secure complete hydrolysis of starchy material and prepared in a powder or granule or flake form by roller drying, spray drying, vacuum drying or by any other process. The flavour of the malted milk foods shall be fresh and sweet (*see* IS 15347). It shall be in the form of powder or granules or flakes. It shall be free from dirt and other extraneous matter. It shall not contain any added starch (except starch natural to cocoa powder) and added non-

milk fat. It shall not contain any preservative or added colour.

4.2 Malted Milk Foods with Cocoa Powder

Same as 4.1 and containing cocoa powder. It may also contain added sugars.

4.3 Malted milk foods shall also comply with the requirements given in Table 1.

4.4 Hygienic Conditions

The products shall be manufactured and packed under hygienic conditions as per IS 2491.

5 PACKING AND MARKING

5.1 Packing

The product shall be packed in quantities as stipulated under the *Legal Metrology (Packaged Commodities) Rules, 2011* as well as in accordance with requirements under the *Food Safety and Standards Act, 2006* and the Rules framed thereunder. These shall be packed in hermetically sealed, clean and sound tin containers or glass bottles or other moisture-proof containers, such as rigid containers made from high density polyethylene or containers made from flexible packaging material,

such as laminates of paper, polyethylene, aluminium foil; in such a way as to protect them from deterioration during storage.

5.2 Marking

Each container shall be legibly and indelibly marked with the following particulars:

- a) Name and type of the material and trade or brand name;
- b) Name and address of the manufacturer;
- c) Batch or Code number;
- d) Net quantity;
- e) List of ingredients in descending order;
- f) Directions for use; and
- g) Month and year of packing;
- h) Best for consumption up to(month and year in capital letters);
OR
Best for consumption within(months) from the date of packing/manufacture; and
- j) Any other requirements under the *Legal Metrology (Packaged Commodities) Rules, 2011* and the *Food Safety and Standards Act, 2006* and Rules framed thereunder.

Table 1 Requirements for Malted Milk Foods
(Clauses 4.3 and 7.1)

Sl No.	Characteristics	Requirements for		Method of Test, Ref to
		Type I	Type II	
(1)	(2)	(3)	(4)	(5)
i)	Moisture, percent by weight, <i>Max</i>	5	5	Annex A
ii)	Total protein ($N \times 6.25$) (on dry basis), percent by weight, <i>Min</i>	12.5	11.25	IS 7219
iii)	Total fat (on dry basis), percent by weight, <i>Min</i>	7.5	6	IS 11721
iv)	Total ash (on dry basis), percent by weight, <i>Max</i>	5	5	Annex B of IS 14433
v)	Acid insoluble ash (on dry basis) (in dilute HCl), percent by weight, <i>Max</i>	0.1	0.1	Annex C of IS 14433
vi)	Solubility, percent by weight, <i>Min</i>	85	80	IS 12759
vii)	Cocoa powder (on dry basis), percent by weight, <i>Min</i>	—	5.0	See Note
viii)	Test for starch	Negative	—	Annex B
ix)	Bacterial count, per gram, <i>Max</i>	50 000	50 000	IS 5402
x)	Coliform count, per gram, <i>Max</i>	10	10	IS 5401 (Part 1)
xi)	<i>E. coli</i> , per 0.1 g	Absent	Absent	IS 5887 (Part 1)
xii)	Yeast and mould count, per 0.1 g	Absent	Absent	IS 5403
xiii)	<i>Salmonella</i> , per 0.1 g	Absent	Absent	IS 5887 (Part 3)
xiv)	<i>Shigella</i> , per 0.1 g	Absent	Absent	IS 5887 (Part 7)
xv)	<i>Vibrio cholerae</i> and <i>V. parahaemolyticus</i> , per 0.1 g	Absent	Absent	IS 5887 (Part 5)
xvi)	Faecal streptococci and <i>Staphylococcus aureus</i> , per 0.1 g	Absent	Absent	IS 5887 (Part 2)

NOTE — As there is no suitable and easily workable method for determining cocoa powder content, the manufacturers would be required to maintain a record showing the quantity of cocoa powder added to each batch.

5.2.1 BIS Certification Marking

The product may also be marked with the Standard Mark.

5.2.2 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

6 SAMPLING

The method of drawing representative samples of the

material and the criteria for conformity shall be as prescribed in Annex E of IS 14433.

7 TESTS

7.1 Tests shall be carried out as prescribed in the appropriate Annexes given under col 5 of Table 1 of this standard.

7.2 Quality of Reagents

Unless specified otherwise, pure chemicals shall be employed in tests and distilled water (*see* IS 1070) shall be used where the use of water as reagent is intended.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the test results.'

ANNEX A

[Table 1, Sl No. (i), col 5]

DETERMINATION OF MOISTURE**A-1 APPARATUS**

A-1.1 Flat Bottom Moisture Dish with Cover, stainless steel, nickel, aluminium or porcelain, of about 80 mm diameter and 25 mm height.

A-1.2 Vacuum Oven**A-2 PROCEDURE**

A-2.1 Weigh accurately about 5 g of the material into the dish previously dried and weighed. Heat the dish containing the material after uncovering in the vacuum oven maintained at a temperature between 60°C and 70°C and at a pressure of not more than 6.67 kN/m² for about 2 h. Cool in a desiccator and weigh with the cover on. Repeat the process of the drying, cooling and

weighing at 30 min intervals until the difference between the two consecutive weighing is less than 1 mg. Record the lowest mass.

NOTE — 1 kN/m² = 7.500 6 mm of Hg.

A-3 CALCULATION

Moisture, percent by mass = $\frac{100 (M_1 - M_2)}{M_1 - M}$

where

M_1 = mass in g of the dish with the material before drying;

M_2 = mass in g of the dish with the material after drying; and

M = mass in g of the empty dish.

ANNEX B

[Table 1, Sl No. (viii), col 5]

TEST FOR STARCH**B-1 PROCEDURE**

Dissolve the malted milk food in boiling water (1 : 8 dilution). To 5 ml of the cooled malted milk food

solution, add about 0.5 ml of 0.1 percent solution of iodine in potassium iodide. The mixture should not develop any blue colour in order to give a negative test.

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BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002

Telephones : 2323 0131, 2323 3375, 2323 9402

Website: www.bis.org.in

Regional Offices:

Telephones

Central	: Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	{ 2323 7617 2323 3841
Eastern	: 1/14 C.I.T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700054	{ 2337 8499, 2337 8561 2337 8626, 2337 9120
Northern	: Plot No. 4-A, Sector 27-B, Madhya Marg, CHANDIGARH 160019	{ 26 50206 265 0290
Southern	: C.I.T. Campus, IV Cross Road, CHENNAI 600113	{ 2254 1216, 2254 1442 2254 2519, 2254 2315
Western	: Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400093	{ 2832 9295, 2832 7858 2832 7891, 2832 7892

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